

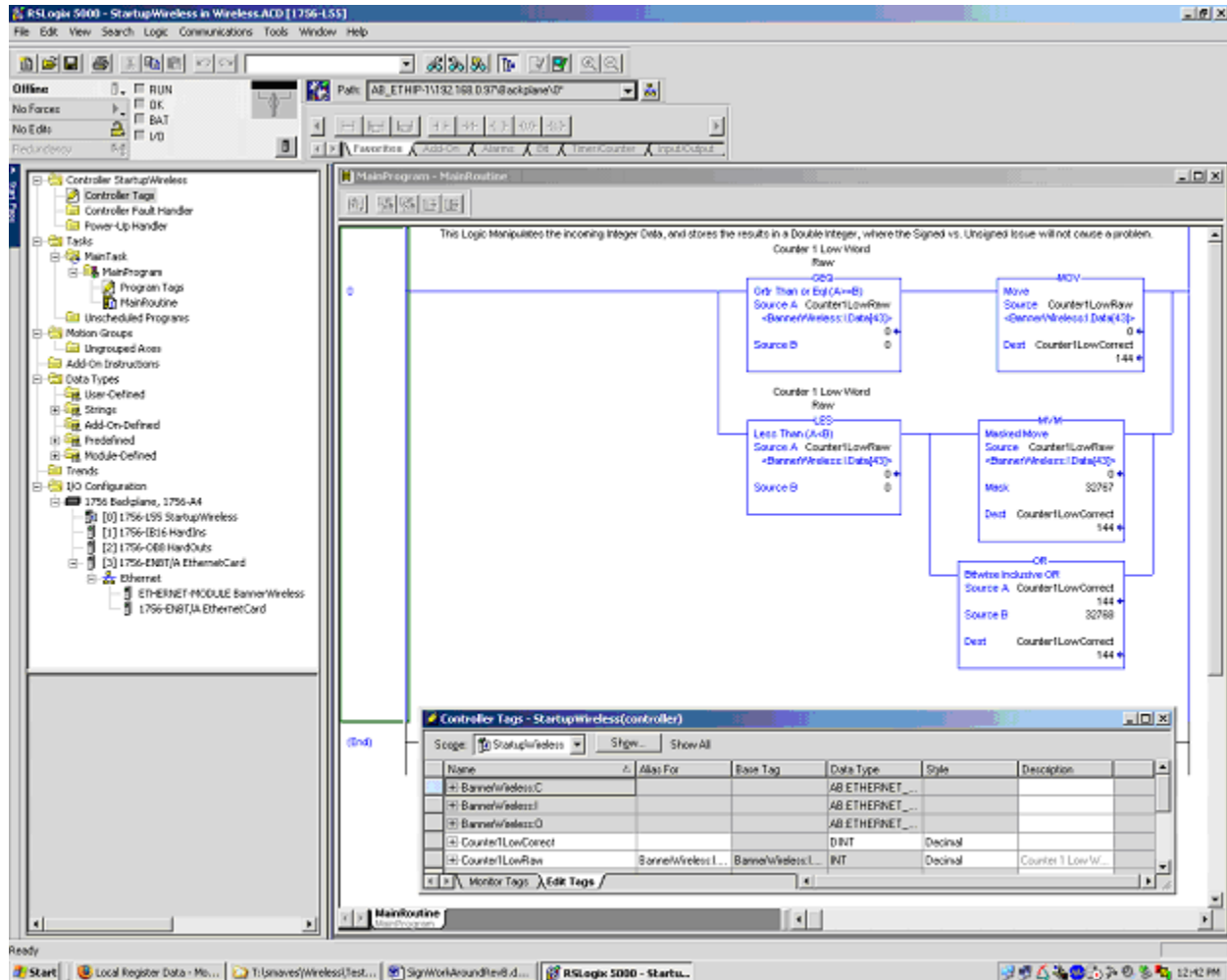
Allen-Bradley® Signed vs Unsigned Integer Work-Around

Banner's DX80 GatewayPro sends all results as a 16-bit unsigned integer. Some products expect this value to be a 16-bit signed integer, allowing the products to misinterpret the results of an analog input when it passes mid-scale. This technical note describes how to convert the GatewayPro's 16-bit unsigned integer to a 16-bit signed integer using Allen-Bradley's Control Logix®.

Analog Value (Approximate)	Unsigned Integer	Allen-Bradley Signed Results
0 mA	0	0
9.999 mA	32,767	32,767
10.001 mA	33,679	-32,767
20 mA	65,534	-1

Analog Inputs and Corresponding Integer Values from the SureCross Wireless Network and Allen-Bradley PLC

One possible solution to the signed or unsigned integer issue is to use ControlLogix® to move the data from the integer data type into a double integer (32-bit integer) using ladder logic commands. The logic for this approach is shown below.



Electronic copies of this .ACD file are available. If you have additional questions or comments about this document, please contact Banner Engineering's wireless application engineers.

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